

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2018/069405

A. CLASSIFICATION OF SUBJECT MATTER*F16K 17/40*(2006.01)i; *F16K 17/16*(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6311715 B1 (WADKINS THOMAS J [US]) 06 November 2001 (2001-11-06) column 7, line 45 - column 8, line 29; figures 3, 5	1-17
X	US 2947443 A (VICTOR SAWYER CHARLES HENRY ET AL) 02 August 1960 (1960-08-02) column 1, line 68 - column 2, line 47; figures	1-17
A	US 5579942 A (PALMER STEVEN S [US] ET AL) 03 December 1996 (1996-12-03) column 3, lines 46-51 column 5, lines 7-46; figures	1-17

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 August 2018

Date of mailing of the international search report

13 September 2018

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/EP2018/069405

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	6311715	B1	06 November 2001	CA	2344202	A1	07 January 2002
				US	6311715	B1	06 November 2001
US	2947443	A	02 August 1960	BE	568704	A	10 September 2018
				CH	359579	A	15 January 1962
				DE	1208581	B	05 January 1966
				FR	1197338	A	30 November 1959
				GB	878092	A	27 September 1961
				US	2947443	A	02 August 1960
US	5579942	A	03 December 1996	NONE			